Revised: June 2004

AORTIC REGURGITATION/ AORTIC INSUFFICIENCY (ICD9 424.10)

AEROMEDICAL CONCERNS: Aortic Regurgitation is usually asymptomatic for decades because of the compensation of the left ventricle for volume overload produced by aortic regurgitation. Severe aortic insufficiency does not occur until after the 4th decade. If symptoms are occurring they are usually exercise related and secondary to left ventricular failure, i.e. exertional dyspnea. Later manifestations include orthopnea and paroxysmal nocturnal dyspnea. Exercise intolerance due to left ventricular dysfunction, syncope and angina are all rare in the absence of associated CAD. Reports of valvular degeneration by repeated exposure to high Gz may be of concern in high performance helicopters.

WAIVERS:

Initial Class 1A/1W Applicants:
No exception to policy is recommended.

Initial Class 2, 3, and 4 Applicants:
Will be considered on a case-by-case basis.

Rated Aviation Personnel (All Classes):
Mild cases of aortic regurgitation may be considered for a waiver. Any structural abnormality associate with aortic regurgitation is considered waiverable for rated aircrew members provided the air crew member is symptom free and a full cardiac work-up is negative or demonstrates minimal cardiac enlargement. Specific aircraft restrictions are possible.

INFORMATION REQUIRED: Complete cardiology evaluation is required including AGXT, 24-hour Holter monitor and ECHO with Doppler Flow Study. Consultation with the designated Aeromedical Cardiology Consultant may be recommended by USAAMA. Local evaluations may require submission of complete tracings and a duplicate ECHO tape, upon request.

FOLLOW-UP: Submission of annual cardiology evaluation to include ECHO with Doppler flow study.

TREATMENT: SBE prophylaxis is required for all dental procedures as well as any other potentially septic exposure. Treatment of any underlying hypertension should be closely adhered to and avoidance of intense weight training recommended since these both may hasten the onset of symptoms.

DISCUSSION: The most common causes of this valvular disorder are congenital valvular abnormalities (bicuspid valve), abnormalities in the proximal aorta secondary to Marfans-type syndrome, and degenerative changes secondary to bacterial endocarditis. Certain systemic inflammatory conditions (i.e. Rheumatoid, Ankylosing Spondylitis)

may cause structural degenerative changes of the aortic valve. Studies amongst healthy aircrew at both NAMI and AMCS have detected a limited degree of aortic insufficiency (AI) in a number of patients without detectable valvular pathology.

On ECHO, these "physiological" AI cases typically have a very small AI jet that does not extend out of the left ventricular outflow tract (LVOT). The high-pitched early diastolic murmur of aortic regurgitation is often clinically missed and probably insignificant.

Moderate AI is heard best with the diaphragm of the stethoscope with the patient sitting upright, leaning forward and deeply expiring. The murmur is loudest along the left sternal border. Other physical findings include signs secondary to hyperdynamic peripheral circulation and have been given eponyms of some use, described below.

Valvular replacement is considered permanently disqualifying from aviation duties. In most individuals valve replacement is mechanical and requires chronic anti-coagulant therapy.